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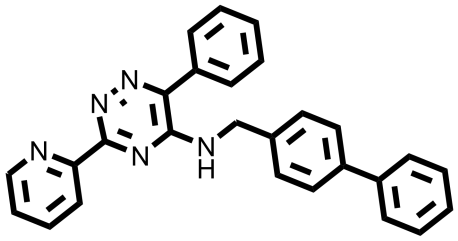
HIF Pathway Activator – ML228

Chemical Name: N-([1,1'-biphenyl]-4-ylmethyl)-6-phenyl-3-(pyridin-2-yl)-1,2,4-triazin-5-amine



Molecular Weight:	415.49
Formula:	$C_{27}H_{21}N_5$
Purity:	≥98%
CAS#:	1357171-62-0
Solubility:	DMSO up to 100 mM
Storage	Powder: 4°C 1 year DMSO: 4°C 3 months -20°C 1 year

Biological Activity:

ML228 is a hypoxia inducible factor (HIF) pathway activator with an EC_{50} at ~1.23 μM in HRE gene reporter assay and ~1.4 μM in HIF-1α nuclear translocation assay. It does not inhibit the proteasome, but activates HIF stabilization and nuclear translocation, and induces expression of a HIF specific downstream gene (VEGF). It has no apparent toxicity below 30 μM and appeared to be an iron chelator, independently of PHD. HIFs are transcription factors responsible for the activation of genes which encode proteins that mediate adaptive responses to reduced oxygen availability. HIF pathway is the most significant pathway for cellular response to hypoxia.

How to Use:

In vitro: ML228 was used at 10 μM final concentration in various in vitro assays.

In vivo: n/a

Reference:

1. Theriault JR, et al. Discovery of a new molecular probe ML228: an activator of the hypoxia inducible factor (HIF) pathway. (2012) Bioorg Med Chem Lett. 22(1):76-81.